PATENT

IN THE CLAIMS:

Entry of the following amendments is respectfully requested in order to

place the present Application in condition for allowance:

1. (currently amended) System comprising a gear pump and a screw-type

extruder for delivering elastomeric media which comprises a screw and a screw

casing, the screw-type extruder being arranged in front of the gear pump viewed

in the delivery direction of the elastomeric media,

wherein the screw casing has at least one conical part downstream of a

cylindrical part located downstream of a feed opening, and the screw has at least

one tapering in an area of the conical part, and wherein the screw is axially

displaceable in the screw casing for the controlled feeding of energy into the

elastomeric media, and wherein the screw projects into the case of the gear

<u>pump</u>.

2. (previously presented) System according to Claim 1,

wherein the tapering of the screw as well as the conical part are provided

on the gear-pump-side end of the screw-type extruder.

3. (previously presented) System according to Claim 1,

wherein the tapering of the screw increases viewed in the delivery

direction of the medium.

-2-

PATENT

4. (previously presented) System according to Claim 1, wherein the screw has a double-helix-type construction.

5. (previously presented) System according to Claim 1, wherein a tangential plane on the screw in the area of the tapering encloses an angle of from 2 to 10 with the center axis of the screw.

6. (previously presented) System according to Claim 1, wherein the length of the screw is less than five times the diameter of the screw.

## 7. (canceled)

- 8. (previously presented) System according to Claim 1, wherein the ratio of the length of the conical part to the length of the cylindrical part is between 1:2 to 1:5.
  - 9. (previously presented) System according to Claim 1, wherein the length of the cone is less than the diameter of the screw.

PATENT

10. (withdrawn) System according to Claim 1,

wherein the screw and/or the screw casing each have one hollow space respectively with at least two openings for admitting and discharging a temperature adjusting medium.

11. (withdrawn) System according to Claim 1,

wherein a filter is provided which, viewed in the delivery direction, is arranged behind the gear pump.

12. (withdrawn) System according to Claim 1,

wherein a metal detector is arranged in front of the gear pump, preferably in front of the screw-type extruder, and

wherein a control unit is provided which is operatively connected with drives of the screw and of the gear pump and with the metal detector.

- 13. (canceled)
- 14. (withdrawn) System according to Claim 11,

wherein the filter is arranged between the gear pump and the spraying head.

15. (canceled)

**PATENT** 

16. (withdrawn) Method of operating the system according to Claim 12, wherein, when a metal piece is detected, the delivery of the pumping medium is interrupted in that the drives of the screw and of the gear pump are stopped.

- 17. (withdrawn) Method of operating the system according to Claim 12, wherein a detection of a metal piece is indicated to an operator who intervenes in the transport process of the pumping medium for removing the metal piece without requiring an interruption of the production process.
  - 18. (currently amended) A conveying assembly comprising:
    a screw-type extruder operable to deliver elastomeric media, and
    a gear pump disposed downstream of the screw-type extruder,
    wherein the screw-type extruder includes a screw and a screw casing

surrounding the screw, said screw casing including a conically tapered section downstream of a cylindrical section located downstream of a feed opening, said screw including a corresponding conically tapered section adjacent to the conically tapered section of the screw casing,

wherein the screw projects into the case of the gear pump, and wherein the screw is axially displaceable with respect to the screw casing during conveying operations.

App. Ser. No. 09/819,071

Atty. Dkt. No.: 658/49678CO

**PATENT** 

19. (withdrawn) A conveying assembly according to Claim 18, comprising openings for admitting temperature adjusting medium to respective hollow

spaces at at least one of the screw and screw casing.

20. (withdrawn) A conveying assembly according to Claim 18, comprising

a filter disposed downstream of the gear pump.

21. (withdrawn) A conveying assembly according to Claim 18,

wherein a metal detector is arranged in front of the gear pump, preferably

in front of the screw-type extruder, and

wherein a control unit is provided which is operatively connected with

drives of the screw and of the gear pump and with the metal detector.

22. (canceled)

23. (previously presented) A method of conveying elastomeric material

using a conveying assembly comprising:

a screw-type extruder operable to deliver elastomeric media, and

a gear pump disposed downstream of the screw-type extruder,

wherein the screw-type extruder includes a screw and a screw casing

surrounding the screw, said screw casing including a conically tapered section

downstream of a cylindrical section located downstream of a feed opening, said

-6-

**PATENT** 

screw including a corresponding conically tapered section adjacent to the conically tapered section of the screw casing, and

wherein the screw is axially displaceable with respect to the screw casing during conveying operations,

said method comprising:

feeding elastomeric material to the gear pump with said screw-type extruder, and pumping said elastomeric material with the gear pump while varying the axial position of the screw and screw casing to assure control of energy in the elastomeric material supplied to the gear pump.

24. (withdrawn) A method of operating a conveying assembly comprising: a screw-type extruder operable to deliver elastomeric media, and a gear pump disposed downstream of the screw-type extruder,

wherein the screw-type extruder includes a screw and a screw casing surrounding the screw, said screw casing including a conically tapered section downstream of a cylindrical section located downstream of a feed opening, said screw including a corresponding conically tapered section adjacent to the conically tapered section of the screw casing, and

wherein the screw is axially displaceable with respect to the screw casing during conveying operations,

wherein a metal detector is arranged in front of the gear pump, preferably in front of the screw-type extruder, and

**PATENT** 

wherein a control unit is provided which is operatively connected with drives of the screw and of the gear pump and with the metal detector,

said method of operating including detecting a metal piece by the detector and interrupting the drive of the screw and gear pump in response to detection of the metal piece.

25. (withdrawn) A method of operating a conveying assembly comprising:
a screw-type extruder operable to deliver elastomeric media, and
a gear pump disposed downstream of the screw-type extruder,

wherein the screw-type extruder includes a screw and a screw casing surrounding the screw, said screw casing including a conically tapered section downstream of a cylindrical section located downstream of a feed opening, said screw including a corresponding conically tapered section adjacent to the conically tapered section of the screw casing, and

wherein the screw is axially displaceable with respect to the screw casing during conveying operations,

wherein a metal detector is arranged in front of the gear pump, preferably in front of the screw-type extruder, and

wherein a control unit is provided which is operatively connected with drives of the screw and of the gear pump and with the metal detector,

said method of operating including detecting a metal piece by the detector and intervening in the conveying process by removing the metal piece without interrupting the conveying operation of the extruder and pump.